

## **I. AMENDMENT**

### **Listing of the Claims**

The following listing of the claims replaces all previous listings or versions of the claims:

1-18. (Canceled)

19. (Currently Amended) A ~~The method of claim 18, wherein said detecting cellular expression of a recombinant somatostatin receptor (SSTR) seven transmembrane G protein associated receptor is in a subject comprising:~~

a) introducing a nucleic acid encoding a recombinant somatostatin receptor (SSTR), a somatostatin type 2 receptor, or mutated somatostatin type 2 receptor into a cell of the subject; and

b) detecting cellular expression of a recombinant SSTR based upon the chemical, physical or biological properties of said recombinant SSTR;

wherein the expression of said recombinant SSTR is detected by contacting said cell with a ligand that binds with specificity to said recombinant SSTR.

20. (Previously Presented) The method of claim 19, wherein said ligand is radioactively labeled somatostatin analog.

21. (Previously Presented) The method of claim 20, wherein said ligand is radioactively labeled octreotide.

22. (Currently Amended) The method of claim [[16]]19, wherein the expression of said recombinant SSTR seven transmembrane G protein associated receptor is detected by contacting

the cell with an antibody, antibody fragment, or small molecule that binds with specificity to said recombinant SSTR seven transmembrane G protein associated receptor.

23. (Previously Presented) The method of claim 38, wherein said antibody, antibody fragment, or small molecule binds with specificity to said protein tag.

24. (Currently Amended) The method of claim 39, wherein the expression of said recombinant SSTR seven transmembrane G protein associated receptor is detected by enzymatic activity of said protein tag.

25. (Original) The method of claim 24, wherein said enzymatic activity is chloramphenicol acetyl transferase activity.

26-37. (Canceled)

38. (Currently Amended) The method of claim 22, wherein said recombinant SSTR seven transmembrane G protein associated receptor further comprises a protein tag fused to the N-terminal end or C-terminal end of said recombinant SSTR seven transmembrane G protein associated receptor.

39. (Previously Presented) The method of claim 38, wherein said protein tag has enzymatic activity.

40. (Previously Presented) The method of claim 38, wherein the protein tag is selected from the group consisting of hemagglutinin A, beta-galactosidase, thymidine kinase, transferrin, myc-tag, VP16, (His)<sub>6</sub>-tag, or chloramphenicol acetyl transferase.

41. (Currently Amended) The method of claim [[18]]19, wherein said ligand has been detectably labeled.
42. (Canceled)
43. (Currently Amended) The method of claim [[42]]19, wherein the recombinant SSTR seven transmembrane G protein associated receptor comprises a carboxy terminal truncation of said recombinant SSTR seven transmembrane G protein associated receptor, wherein said carboxy terminal truncation alters internalization and/or signaling of said recombinant SSTR seven transmembrane G protein associated receptor into a cell.
44. (Currently Amended) The method of claim [[43]]19, wherein the recombinant SSTR seven transmembrane G protein associated receptor is a recombinant SSTR type 2 receptor somatostatin receptor, a somatostatin type 2 receptor, or mutated somatostatin type 2 receptor.
45. (Currently Amended) The method of claim 44, wherein the recombinant SSTR further comprises a protein tag fused to the N-terminal end or C-terminal end of said recombinant SSTRseven transmembrane G protein associated receptor.
46. (Previously Presented) The method of claim 45, wherein the protein tag is selected from the group consisting of hemagglutinin A, beta-galactosidase, thymidine kinase, transferrin, myc-tag, VP16, (His)<sub>6</sub>-tag, or chloramphenicol acetyl transferase.
47. (Previously Presented) The method of claim 45, further comprising detecting the protein tag.

48. (Currently Amended) The method of claim [[16]]19, wherein the nucleic acid is comprised in an expression vector.

49. (Previously Presented) The method of claim 48, wherein the vector a nucleic acid, a plasmid, a viral particle, a virus, or a prokaryotic or eukaryotic cell.

50. (Previously Presented) The method of claim 49, wherein a virus is an adenovirus, baculovirus, parvovirus, herpesvirus, poxvirus, adeno-associated virus, semiliki forest virus, vaccinia virus, Sindbis virus, lentivirus, or retrovirus.

51. (Previously Presented) The method of claim 50, wherein the virus is an adenovirus.

52. (Currently Amended) The method of claim [[16]]19, wherein the nucleic acid encoding the recombinant SSTR seven transmembrane G protein associated receptor is operatively linked to an inducible, a repressible, or a constitutive promoter.

53. (Previously Presented) The method of claim 52, wherein the promoter is a constitutively active promoter.

54. (Currently Amended) The method of claim [[16]]19, wherein the nucleic acid encodes a recombinant SSTR, wherein said recombinant SSTR-somatostatin receptor comprises a carboxy terminal truncation of said recombinant SSTR-somatostatin receptor, wherein said carboxy terminal truncation alters internalization and/or signaling of said recombinant SSTR-seven transmembrane G protein associated receptor into a cell, and wherein said recombinant SSTR somatostatin receptor further comprises a heterologous leader sequence at the N-terminus or C-terminus of said recombinant SSTR-somatostatin receptor.

55. (Currently Amended) A method of detecting a recombinant SSTR seven transmembrane G protein associated receptor in a cell comprising:

- a) introducing the cell to a nucleic acid encoding a recombinant SSTR seven transmembrane G protein associated receptor amino acid sequence, wherein the encoded recombinant SSTR seven transmembrane G protein associated receptor amino acid sequence comprises a carboxy terminal truncation or N-terminal truncation, and
- b) detecting cellular expression of said recombinant SSTR seven transmembrane G protein associated receptor amino acid sequence using a ligand that binds with specificity to the recombinant SSTR seven transmembrane G protein associated receptor amino acid sequence.

56. (Previously Presented) The method of claim 55, wherein said ligand has been detectably labeled.

57. (Currently Amended) The method of claim 55, wherein the recombinant SSTR seven transmembrane G protein associated receptor further comprises a protein tag fused to the N-terminal end or C-terminal end of said recombinant SSTR seven transmembrane G protein associated receptor.

58. (Previously Presented) The method of claim 57, wherein the protein tag is hemagglutinin A, beta-galactosidase, thymidine kinase, transferrin, myc-tag, VP16, (His)6-tag, or chloramphenicol acetyl transferase.

59. (Currently Amended) The method of claim 55, wherein the nucleic acid encoding the recombinant SSTR seven transmembrane G protein associated receptor amino acid sequence further comprises a leader sequence to guide the recombinant SSTR seven transmembrane G protein associated receptor sequence to a particular subcellular location.

60. (Previously Presented) The method of claim 59, wherein the leader sequence is a heterologous leader sequence.

61. (Previously Presented) The method of claim 60, wherein the leader sequence is an Ig kappa leader sequence.

62. (Currently Amended) The method of claim 55, wherein the nucleic acid encodes a recombinant seven transmembrane G protein associated receptor amino acid sequence is a recombinant SSTR type 2 receptor, a somatostatin type 2 receptor, or mutated somatostatin type 2 receptor.

63. (Currently Amended) The method of claim [[62]] 55, wherein the nucleic acid encoding the recombinant SSTR-seven transmembrane G protein associated receptor amino acid sequence further comprises a leader sequence to guide the recombinant SSTR-seven transmembrane G protein associated receptor amino acid sequence to a particular subcellular location.

64. (Previously Presented) The method of claim 55, wherein the carboxy terminal truncation comprises a carboxy terminal truncation from amino acid 315.

65. (Currently Amended) The method of claim 55, wherein detection comprises detection using MRI, CT, ultrasound, planar gamma camera imaging, SPECT, PET, ~~other nuclear medicine based imaging~~, imaging using visible light, imaging using luciferase, imaging using a fluorophore, imaging using near infrared light, or imaging using infrared light.

66-77. (Canceled)

78. (Currently Amended) The method of claim [[18]]19, wherein said ligand is further defined as a ligand capable of being labeled with a substance that can be imaged.

79. (Currently Amended) The method of claim 55, wherein the encoded recombinant SSTR ~~seven transmembrane G protein associated receptor~~ amino acid sequence comprises a carboxy terminal truncation.

80. (Currently Amended) The method of claim 79, wherein the carboxy terminal truncation is further defined as a truncation that alters internalization and/or signaling of the recombinant SSTR or somatostatin type 2 ~~seven transmembrane G protein associated receptor~~ amino acid sequence.

81. (Currently Amended) The method of claim 79, wherein the nucleic acid encodes a recombinant somatostatin type 2A (SSTR2A) ~~seven transmembrane G protein associated receptor amino acid sequence is a SSTR2A~~ amino acid sequence, and wherein the amino acids that are C-terminal to amino acid 314 of the SSTR2A protein are deleted.

82. (Previously Presented) The method of claim 81, wherein the encoded SSTR2A amino acid sequence further comprises a protein tag fused to the N-terminus or C-terminus of said SSTR2A amino acid sequence.

83. (Previously Presented) The method of claim 81, wherein the encoded SSTR2A amino acid sequence further comprises a heterologous leader sequence fused to the N-terminus or C-terminus of said SSTR2A amino acid sequence.

84. (Currently Amended) The method of claim 80, wherein detection comprises detection using MRI, CT, ultrasound, planar gamma camera imaging, SPECT, PET, ~~other nuclear~~

~~medicine-based imaging~~, imaging using visible light, imaging using luciferase, imaging using a fluorophore, imaging using near infrared light, or imaging using ~~infrared~~ infrared light.

85. (Previously Presented) The method of claim 53, wherein the promoter is a thymidine kinase promoter, a SV40 promoter, or a CMV promoter.